

## CLAIMS

1. A gas sensor comprising at least one light source, projection optics and a light-reflecting chamber provided with at least one light entry opening, which gas sensor further comprises a detector that cooperates with the light-reflecting chamber, by means of which detector light from the light source can be detected, characterized in that the gas sensor comprises at least two light sources, which can each be projected on a light entry opening of the chamber by means of said projection optics.
2. A gas sensor according to claim 1, characterized in that the gas sensor comprises at least two light sources, which can each be projected on the same light entry opening of the chamber by means of projection optics.
3. A gas sensor according to claim 1 or 2, characterized in that a wavelength-determining element is disposed between at least one light source and the detector.
4. A gas sensor according to any one of the preceding claims, characterized in that the projection optics comprises at least one projection mirror.
5. A gas sensor according to claim 4, characterized in that the mirror comprises a number of segments, a first group of which segments is used for projecting the first light source on the light entry opening whilst the second group of segments is used for projecting the second light source on the light entry opening.
6. A gas sensor according to any one of the preceding claims, characterized in that the light sources are disposed on the same side of the detector.
7. A gas sensor according to any one of the preceding claims, characterized in that the light sources are spaced apart by a centre distance in the order of the diameter of the light sources.

8. A gas sensor according to any one of the preceding claims, characterized in that the light-reflecting chamber is of square cross-section, at least one side of which cross-section has a dimension in the order of the dimension of a light-receiving element of the detector or of the dimension of the projection of the light source.

9. A gas sensor according to any one of the preceding claims, characterized in that the cross-sectional area of the light-reflecting chamber gradually decreases from the light entry opening in the direction of the detector.

10. A gas sensor according to any one of the preceding claims, characterized in that the chamber is channel-shaped, at least one dimension of the chamber being in the order of a dimension of a light-receiving segment of the detector.

11. A gas sensor according to any one of the preceding claims, characterized in that the chamber is provided with a light exit opening, near which light exit opening the detector is mounted.

12. A gas sensor according to any one of the preceding claims, characterized in that the wavelength-determining element is a filter.

13. A gas sensor according to any one of the preceding claims, characterized in that the wavelength-determining element is disposed between the light source and the projection optics.

14. A gas sensor according to any one of the preceding claims, characterized in that the wavelength-determining element is disposed between the projection optics and the detector.